SOT223 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

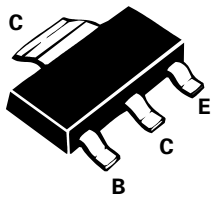
FZT603

ISSUE 3 – NOVEMBER 1995

FEATURES

* 2A continuous current
* Useful h_{FE} up to 6A
* Fast Switching

PARTMARKING DETAIL – DEVICE TYPE IN FULL



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	10	V
Peak Pulse Current	I_{CM}	6	A
Continuous Collector Current	I_C	2	A
Power Dissipation	P_{tot}	2	W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	100	240		V	I_C=100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	80	110		V	I_C=10mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10	16		V	I_E=100μA
Collector Cut-Off Current	I_{CBO}			0.01 10	μA μA	V_{CB}=80V V_{CB}=80V, T_{amb}=100°C
Emitter Cut-Off Current	I_{EBO}			0.1	μA	V_{EB}=8V
Collector Cut-Off Current	I_{CES}			10	μA	V_{CES}=80V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.79 0.80 0.88 0.99 0.86	0.88 0.90 1.00 1.13	V V V V V	I_C=0.25A, I_B=0.25mA* I_C=0.4A, I_B=0.4mA* I_C=1A, I_B=1mA* I_C=2A, I_B=20mA* I_C=2A, I_B=20mA †

† T_j=150°C

ZETEX

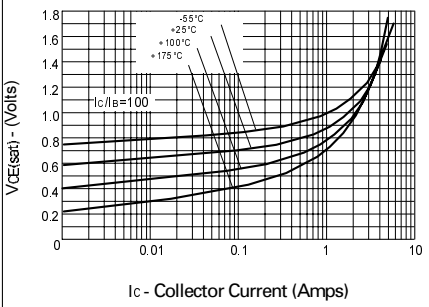
FZT603

ELECTRICAL CHARACTERISTICS (Continued)

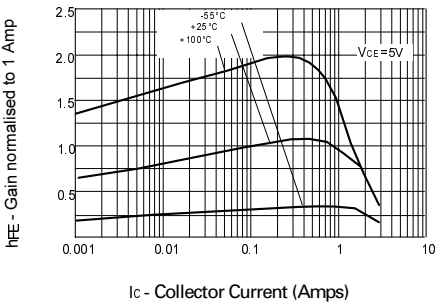
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.7	1.95	V	I_C=2A, I_B=20mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.5	1.75	V	I_C=2A, V_{CE}=5V*
Static Forward Current Transfer Ratio	h_{FE}	3k 5k 3k 2k	14k 15k 14k 10k 2k 750	100k		I_C=50mA, V_{CE}=5V* I_C=500mA, V_{CE}=5V* I_C=1A, V_{CE}=5V* I_C=2A, V_{CE}=5V* I_C=5A, V_{CE}=5V* I_C=6A, V_{CE}=5V*
Transition Frequency	f_T	150			MHz	I_C=100mA, V_{CE}=10V f=20MHz
Output Capacitance	C_{ibo}		90		pF	V_{EB}=500mV, f=1MHz
Output Capacitance	C_{obo}		15		pF	V_{CB}=10V, f=1MHz
Switching Times	t_{on}		0.5		µs	I_C=0.5A, V_{CE}=10V I_{B1}=I_{B2}=0.5mA
	t_{off}		1.6		µs	

*Measured under pulsed conditions. Pulse width=300ms. Duty cycle ≤2%
Spice parameter data is available upon request for this device

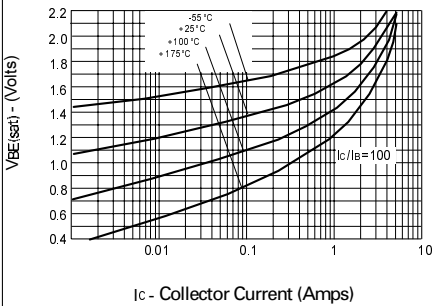
TYPICAL CHARACTERISTICS



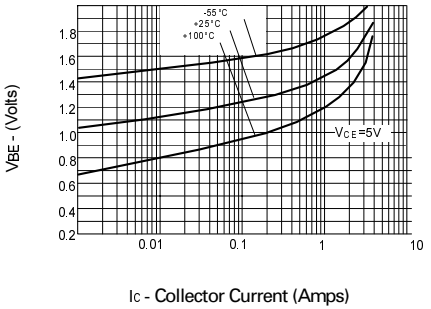
VCE(sat) v IC



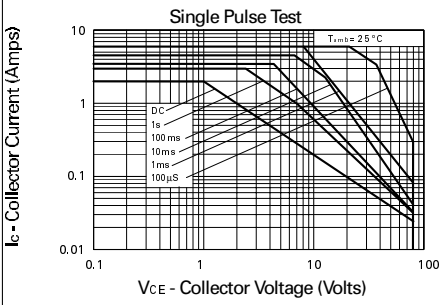
hFE v IC



VBE(sat) v IC



VBE(on) v IC



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